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AUTHOR	Sepe, Thomas D.; Connolly, John J.
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ABSTRACT

The preferences of students for the learning environments and roles they must assume under two divergent instructional models--traditional group-oriented instruction and the self-instructional models--were examined. The study was conducted in two phases; Phase I focused on answering the questions concerning the convergence or divergence of student preference and the relationship of student characteristics to instructional choice; and Phase II undertook the investigation of student preferences for specific characteristics of each instructional model. Five descriptions for each instructional model were presented to two student samples at Harford Community College--219 freshmen and sophomores and 158 first-time freshmen--in Phase I. The model descriptions were modified for Phase II to produce a forced-choice questionnaire, containing eight pairs of statement describing comparable characteristics of each model, which was administered to four classes at four community colleges, a total sample of 384 students. The results of Phase I indicated that the students' preferences for instructional models divided the sample into two nearly equal groups. No significant relationship was found for age, sex, quality point index, major, grade expected, or self-rating of ability. The most prominent reason given for selecting the self-instructional model was the self-pacing characteristic, and that for the traditional model was the group emphasis. Phase II results showed that for seven of the eight pairs of characteristics, the students preferred the self-instructional model characteristics. Tables provide the study data. (DP)

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AN ANALYSIS OF STUDENT ATTITUDES TOWARD DIVERGENT MODES OF INSTRUCTION: IMPLICATIONS FOR INDIVIDUALIZED INSTRUCTION

by

Dr. Thomas D. Sepe
Coordinator of Institutional Research
Harford Community College
Bel Air, Maryland

and

Dr. John J. Connolly
Dean of the College
Harford Community College
Bel Air, Maryland

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The development and use of self-instructional materials in contemporary education has been prolific in recent years. Beyond the sheer volume, the impact of this instructional concept may be observed in the literature by the concerns of the educational community expressed for the changing goals, processes, and roles concomitant to this instructional model. The positions taken have been both positive and negative, running the gamut from perceiving the self-instructional concept as a panacea for all instructional ills, to viewing it as instructional gimmickry which will dehumanize the education process.

The research journals also reflect this controversy; representing it as if it were a battle to the death of two competing instructional modes. Studies abound which compare the merits and effectiveness of these two methods, seemingly in the search for the best instructional method.

This same competitiveness is seen in the implementation of these "innovative" programs. In almost all cases where self-instructional programs have been implemented, the traditional instructional program previously operating has been completely replaced and the self-instructional program constitutes the only mode of instruction available to the student for a particular course. The obvious assumption underlying these conversions is that the self-instructional mode of instruction is a "better" method for all students.

To better understand this controversy, let us look at the self-instructional mode of instruction. While there is no universal self-instructional model, the concept, when implemented in its present form, has been typically characterized by a single "programmed" learning sequence consisting of a series of small steps toward specific learning objectives. This material is presented through one or more media to individual students who control the rate of presentation of information by the use of automated devices. The emphasis is upon "mastery learning" in which examinations are scheduled by the student when he is prepared, and serve as diagnostic feedback to allow the student to repeat areas of deficiency. Instructional units are repeated until a specified level of proficiency is attained, and before a student is permitted to proceed to subsequent units. Typically, failing grades do not exist; passing grades are awarded for mastery. Student evaluation is based on a comparison of achievement to specific criteria, not to the achievement of other classmates. Small group instruction, if provided, is used by the instructor as an adjunct to monitor the learning taking place or to embellish material presented by the programmed sequence.

The instructor's role in self-instructional programs is no longer the "fountain head," acting as the source of the majority of the course content. He instead assumes the role of tutor, a resource to the individual student, to be used as needed. He is the manager of the learning processes.

Equally important changes are required in the role the student assumes. The passive role of receiver of information and infrequent controller of the instructional process is no longer appropriate. The student is required to be an active participant in controlling the instructional process and assumes greater responsibility for the outcomes of the process. He is required to work independently, with a minimal amount of group interaction.

From this brief, general description, one may realize the reasons for the impact on, and reactions from the educational community. The nature of self-instructional programs represents a substantial departure from traditional, group-oriented, education programs for both educators and students. The professional educators have made their positions well-known, but comparatively little has been heard from the students.

It was this relative lack of concern for student opinions and preferences which motivated our study. The purpose of this study was to examine the preferences of students for the learning environments and roles they must assume under these two divergent instructional models; namely, traditional group-oriented instruction and the self-instructional model. The study was designed to answer the following questions:

1. Which instructional mode do students prefer?
2. Are student preferences sufficiently convergent to warrant the offering of single mode of instruction; be it self-instructional or traditional?
3. What student characteristics differentiate between students selecting opposing instructional models?
4. What characteristics of the two instructional models are preferred by students?

Literature

A review of the literature tends to support the belief that the qualities of the instructional environment, and student reaction to these qualities are significant to the learning process. For example, Macomber and Siegel (1) found a small superiority in achievement for students who initially held favorable attitudes toward a mode of instruction. Likewise, Davis (2) found that with content held constant, the form of presentation gave an advantage to students with preferences congruent with the mode of presentation. Kropp, Nelson and King (3) concluded that achievement can be enhanced by assigning instructional materials known to be related to ability patterns of students.

Jacob (4) found that some students react very negatively to a more permissive teaching technique and Ashmus and Haigh (5) reported that almost an equal number of students preferred directive as did non-directive classes. In addition, the latter study found that while the students did not differ significantly in intelligence or grade averages, those preferring non-directive courses displayed greater flexibility, insight, and ability to cope with ambiguity.

In conclusion, these studies provided support for Bloom's contention that "individual students may need very different types and quantities of instruction to achieve mastery." (6)

Procedures

The study was undertaken in two phases. Phase I focused on answering the questions concerning the convergence or divergence of student preference and the relationship of student characteristics

to instructional choice. Phase II undertook the investigation of student preferences for specific characteristics of each instructional model.

Phase I. Since there is no one self-instructional or traditional model, descriptions were developed from a synthesis of descriptions provided in the literature. The result was a set of five statements for each instructional model. The order in which these descriptions were presented was manipulated on the questionnaires to avoid response bias. These model descriptions were presented to two separate samples at Harford Community College; 219 freshman and sophomores and 158 first-time freshman.

The first sample was drawn from a random sample enrolled in the first semester of various two-semester courses. These students were asked to indicate which of the two methods they would prefer for the subsequent semester. They were also asked to indicate the reason for their selection as well as to provide some basic demographic and academic information. The procedures for the second sample differed only in that these freshman were told during orientation that English 101, a course they all would be taking, would be taught by two different methods. They were to indicate their preference, the reason for their choice and were asked to provide similar demographic and academic data.

Phase II. The basic model descriptions for each instructional method were modified to produce a forced-choice questionnaire. The questionnaire contained eight pairs of statements, describing

the characteristics of comparable areas of each model. The students were directed to select the characteristic from each pair which they would prefer to have incorporated into the design of the course in which they were currently enrolled.

Four Maryland Community colleges, including Harford Community College, participated in this phase of the study. The questionnaire was administered to four randomly selected classes at each institution, for a total sample of 384 students.

Results: Phase I

The results of Phase I of the study indicated that the students' preferences for instructional models divided the sample into two nearly equal groups. The distribution within two samples, as well as the distribution of the combined groups, support the contention that there is no one preferred method of instruction (Table 1). A chi-square test was applied to the personal and academic data of these "preference" groups to determine characteristics related to choice of instructional model. No significant relationship (.05 level) was found for age, sex, or quality point index. Nor were such variables as major, grade expected in the course, or the student's perceived academic ability found to be significantly related to preference.

The reasons given by the students in the two samples for their choice of instructional models were sorted by a panel of three judges, and fourteen categories were developed (Table 2).

The most prominent reason given for selecting the self-instructional model was the self-pacing characteristic, representing

TABLE 1

Sample	Total N	Prefer Traditional Model		Prefer Self-Instructional Model	
		Number	Percent	Number	Percent
I	219	107	48.9	112	51.1
II	158	79	50.0	79	50.0
TOTALS	377	186	49.3	191	50.7

TABLE 2

CATEGORIES OF STUDENT RESPONSES (N=377)*

Selected A (Self-Instructional Option)

Characteristic	Sample I No.	Sample I Percent	Sample II No.	Sample II Percent	Total No.	Total Percent
Grading on achievement of objectives	10	6.4	6	6.1	16	6.3
Learner Controlled	9	5.8	4	4.1	13	5.1
Self-pace	64	41.0	40	40.8	104	40.9
Individual Emphasis	36	23.1	35	35.7	71	28.0
Variable time input	10	6.4	3	3.1	13	5.1
Learner initiated testing	14	9.0	3	3.1	17	6.7
Instructor as a resource	13	8.3	7	7.1	20	7.9
TOTAL	156	100.0	98	100.0	254	100.0

Selected B (Traditional Option)

Characteristic	Sample I No.	Sample I Percent	Sample II No.	Sample II Percent	Total No.	Total Percent
Competition	3	4.8	9	8.5	12	7.1
External Control	11	17.7	28	26.4	39	23.2
Group pace	3	4.8	4	3.8	7	4.2
Group emphasis	38	61.3	24	22.6	62	36.9
Set time input	2	3.2	8	7.6	10	6.0
Pre-scheduled testing	0	0.0	5	4.7	5	3.0
Instructor as learning leader	5	8.1	28	26.4	33	19.6
TOTAL	62	100.0	106	100.0	168	100.0

* multiple responses were counted when given so the total number of responses exceeds the total N of students.

40.9% of the responses. Typical of the reasons were such comments as "If I work at my own pace, I think I will learn more," and "I feel that I am slower in learning than some of the other students that is why I picked the [self-instructional model]."

The second most persuasive characteristic of the self-instructional model was individual emphasis, accounting for 28% of the responses. Such comments as "I prefer to work more as an individual than in a group. I think that I will accomplish more than with a group," and "I prefer to learn English independently rather than in a class because I feel I can learn more..." were typical of the responses in this category.

The most frequently cited reason for selecting the traditional instructional model was the group emphasis, which received 36.9% of the responses. The comments made in this regard focused on two areas: (1) the feelings of security obtained from the group and (2) the discussion and interaction present in the group. Comments included: "I don't think I'm ready for individual work the first semester. I'd rather see how I'd do with a group first," and "I'm not ready for individual study yet;" and "I feel I could work better in a group and would be able to get other student opinions in different matters," and "I enjoy working in a group, I could probably learn more."

Of the students selecting the traditional model, 23.2% of the responses were in the category, "External Control." This category referred to the fact that traditional instruction is primarily controlled and directed by someone external to the student, namely

the instructor. The class time schedule, assigning and pacing of instructional material and testing are instructor controlled. Students selecting the traditional option made comments such as "If left to work alone, I would never keep up," and "...I would probably fair better in a classroom situation since I have a tendency to put off outside work when there's no pressure."

Students selecting the traditional model also cited the role of the instructor as a learning leader as a reason for their choice. Representative of the 19.6% of the responses in this category were comments such as, "I feel I can learn more by listening and taking notes." Another said, "I learn more being taught than teaching myself;" and a third: "I usually grasp the idea more readily through lectures rather than on my own."

Results: Phase II

It will be recalled that the objective of this phase of the study was to identify student preferences for singular characteristics of each model rather than for the model as a whole. For seven of the eight pairs of characteristics the students indicated a preference for characteristics from the self-instructional model (Table 3). The range of preference for these characteristics was from 71.5% to 61.0% The characteristics that received the most support were (1) grading on achievement of objectives, (2) self-pacing, and (3) the individual emphasis of the self-instructional model. The one characteristic of the traditional model the students preferred was for the locus of control of the instructional process to be external to the student. In this instance 56.2% of the students preferred this characteristic.

TABLE 3

RESPONSES TO FORCED CHOICE BETWEEN SELF-INSTRUCTIONAL AND TRADITIONAL CHARACTERISTICS

N = 384

Characteristic	Number	Percent	Totals	Percent	Number	Characteristic
Grading on achievement of objectives	274	71.5	383*	28.5	109	Competition
Learner controlled	167	43.8	381*	56.2	214	External control
Self-pace	269	70.1	384	29.9	115	Group pace
Individual emphasis	252	65.6	384	34.4	132	Group emphasis
Variable time input	233	61.0	382*	39.0	149	Set time input
Learner initiated testing	241	63.8	378*	36.2	137	Pre-scheduled testing
Instructor as a resource	238	62.5	381*	37.5	143	Instructor as learning leader
Undefined semester length	246	64.1	384	35.9	138	Defined semester length

* reflects non-responses

In summary, the four research questions posed earlier may now be answered.

Which instructional mode do students prefer?

Students preference for the instructional models was almost equally divided between the traditional and self-instructional models.

Are students preferences sufficiently convergent to warrant the offering of single mode of instruction?

Given the choice of the total models, student preferences dictate the need for divergent modes of instruction. Neither traditional nor self-instructional models offered as the sole mode of instruction will meet the needs of approximately half of the students to be served.

What student characteristics differentiate between students selecting opposing instructional models?

The characteristics selected in this study, age, sex, major, quality point average, perceived academic ability, and expected course grade, failed to differentiate between the two "preference" groups.

What characteristics of the two instructional models are preferred by the students?

Overall, the students preferred all but one of the characteristics of the self-instructional model. These preferred characteristics were the self-pacing process, the individual emphasis, the variable time input and undefined semester length. In addition they preferred

the instructor's role as a learning resource, learner initiated testing and grading based on achievement of objectives. The one characteristic of the traditional model preferred by the students was the external control of the learning process.

Discussion

The results of this study produce two notable findings. First, there is clearly a lack of universal student appeal for either of the two instructional models. Given the choice of either model as a whole, half of the students would opt for either instructional mode. Advocates of either model would be hard pressed to justify the glorification of their preferred instructional mode at the expense of the other. More importantly, this lack of consensus raises serious questions as to the validity of the common practice of totally replacing one mode of instruction with another. This type of competition appears futile.

Secondly, there appears to be little relationship between common demographic and academic characteristics of students and their preference. The results of Phase II do provide some insight into student preferences. Recalling that the majority of students preferred all of the characteristics of the self-instructional model except for having increased responsibility and control of the instructional process, a plausible reason may be induced.

The reason for this reaction may be a result of our system of education, which has not rewarded students who want to control their own learning. The "lock-step" group mode has been ingrained

into all who pass through our elementary, secondary, and postsecondary institutions. Most students have survived a system that does not value individual learning experiences and, in fact, is structured to prevent a regular occurence of such experiences. Students, especially successful ones, have learned to beat a system whose ultimate goals are not expressed as learning objectives, but rather as a relative comparison to peers. The skills for survival in this system are not independence and self-motivation, nor are they necessarily the same skills needed for success in a self-instructional program.

Students have learned to become passive learners, play the game, and opt for grades instead of learning, generally assuming that the system and not the learner is responsible for "education." Cross (7) describes the "new" students of the 70s, found in large numbers in community colleges, as those who have the "inclination to be passive in learning situations."

Students have typically not controlled their own learning, and many are reluctant to assume control at this stage in their educational careers. Many simply have not learned how to learn. Evidence of this fact is the number of respondents who expressed fear over "independent study," as they termed it, or who wanted firm directions from the teacher at all times, saying, "I learn better being taught."

It is this area of student reaction to or preference for instructional modes that has been generally ignored in the design and implementation of instructional programs. In our attempt to

maximize learning through the discovery of the one best method, we seem to have ignored the option of complementary coexistence.

Implications for Individualized Instruction

The educational community has long recognized the principle of individual differences in students and has realized that the successful dealing with these variables holds the key to optimizing learning. Translated into instructional theory, the principle has been embodied into the concept of individualized instruction. This instructional model attempts to cope with these differences through the presentation of numerous alternate routes to learning objectives, employing a variety of instructional methods, media and content. As Heathers pointed out,

> Individualization is not limited to independent learning or learning in a tutor-student dyad. Depending on the learning goal and learner characteristics, individualized education also can occur in group contexts. (8)

The instructional model described in this study and termed "self-instruction" is not synonymous to the individualized instruction model. The existence of a self-pacing quality in the self-instructional model alone cannot and does not meet the learning needs of all students; no more than the traditional model does.

All too many educators have assumed too simplistically that the self-pacing of instruction, packaging courses, and specifying behavioral objectives would individualize instruction and be the panacea for the problems they face. Unfortunately, this has not been the case. Student reaction to a drastically

modified learning environment; one which has changed their roles and responsibilities, has not always been positive.

If we earnestly want to meet the individual needs of the greatest number of students; the students represented by both dichotomous groups in this study, we must end the counterproductive competition between instructional modes and begin to move toward implementing the concept of individualized instruction. Individualized instruction must be viewed as an all-encompassing concept, and what has been termed "traditional instruction" and "self-instruction" must be seen as but two complementary subsets of this much larger set, individualized instruction.

Finally, if individualized instruction is to succeed, a total reeducation process must both precede and accompany the process. Negative stereotypes of "programmed learning" held by both faculty and students must be overcome. The materials and techniques developed must truly be multifaceted and offer different paths to accommodate distinct learning styles. We must be as cognizant of the variety of learning environments as we are of the learning materials and techniques. If we are to meet the specific learning needs of each student, not only different materials and techniques, but different types of instructors and learning environments, both group and individual, will be required.

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